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[COMMUNICATION]

Lepocreadium kamegaii sp. n. (Trematoda: Lepocreadiidae), a New Parasite of Marine Fishes from Moroiso Bay, Misaki, Kanagawa Prefecture, Japan

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ABSTRACT—*Lepocreadium kamegaii* sp. n. (Trematoda: Lepocreadiidae) is described from the intestine of the marine fishes, *Rudarius ercodes* (type host) and *Stephanolepis cirrhifer* (Monacanthidae), from Moroiso Bay, Misaki, Kanagawa Prefecture, on the Pacific coast of central Japan. This species is most closely allied to *L. clavatum* (Ozaki, 1932) Yamaguti, 1938, but distinguished from it by having the plug-like organ in the male duct, elongated and bipartite pars prostatica, genital pore being sinistrolateral to the ventral sucker and more lobed ovary and by lacking the crescent bulb-like muscular thickening at the opening of the metraterm.

This paper deals with a new lepocreadiid trematode. Marine fishes were collected at the *Zostera* bed in Moroiso Bay, Misaki, Kanagawa Prefecture, on the Pacific coast of central Japan, and examined fresh for parasites at the Misaki Marine Biological Station of the University of Tokyo, Misaki, several times from October 1977 to July 1983. Some hundred mature and immature worms of the trematode were obtained, flattened, fixed in Schaudinn's solution or AFA, stained with Heidenhain's iron hematoxylin or alum carmine and mounted in Canada balsam. They are deposited in the collection of the National Science Museum, Tokyo. Some related specimens which were borrowed from the collection of the Meguro Parasitological Museum, Tokyo, and kindly given us by Dr. Shigeru Shimura were also studied.

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Family Lepocreadiidae
Genus *Lepocreadium* Stossich, 1903
Lepocreadium kamegaii sp. n.
(Figs. 1–4)

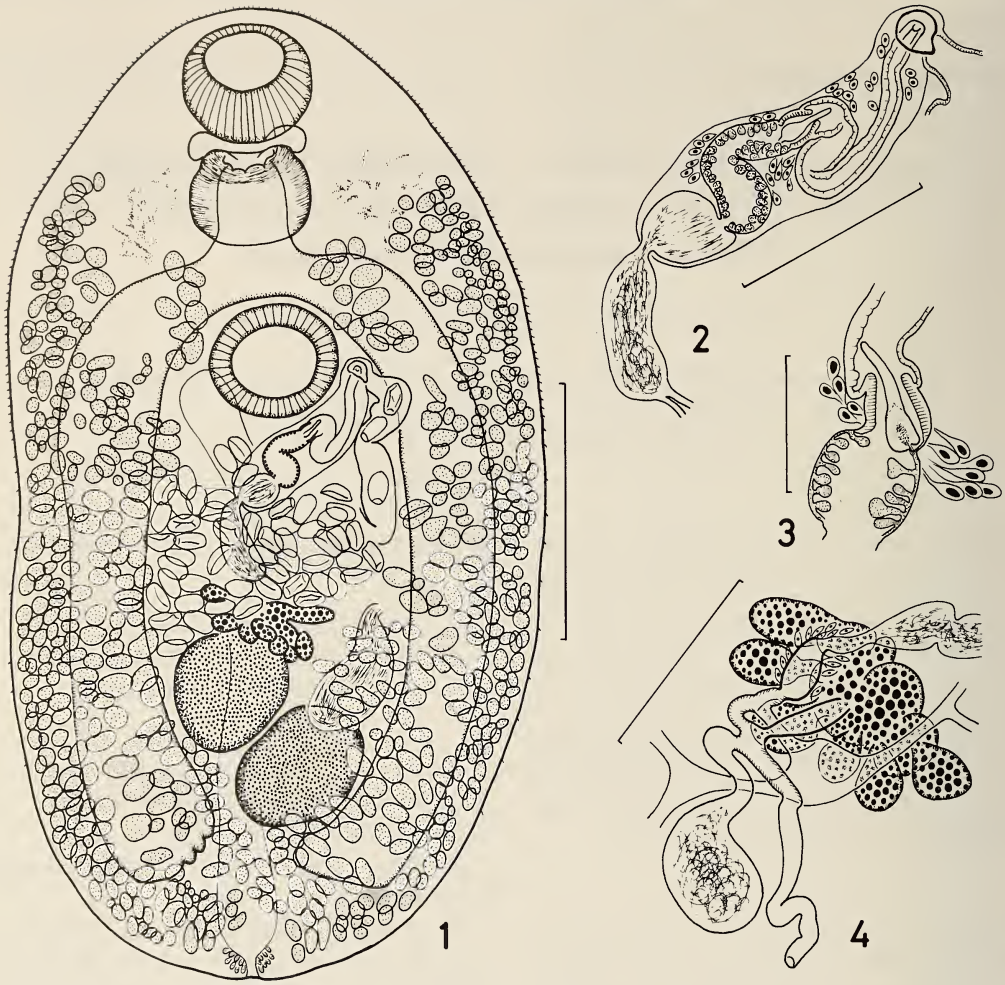
Hosts: *Rudarius ercodes* (type host) and *Stephanolepis cirrhifer* (Monacanthidae).

Site of infection : Intestine.

Locality: Moroiso Bay, Misaki, Kanagawa Prefecture.

Specimens : NSMT-Pl 2838 (holotype from *R. ercodes*); 2650, 2837–2839 and 2841 (9 paratypes from *R. ercodes*); 2650, 2837, 2840 and 2842–2852 (177 other specimens from *R. ercodes*); and 2853 and 2854 (3 specimens from *S. cirrhifer*).

Description (based mainly on holotype and paratypes): Body oval, spinose, 1.50–2.40 mm long by 0.84–1.10 mm wide at equatorial level; forebody 0.60–0.80 mm long, 33–44% of total body length. Eye spot pigments scattered in forebody. Oral sucker almost ventral, 0.20–0.28 mm long by 0.21–0.30 mm wide. Prepharynx present. Pharynx globular, 0.16–0.20 mm long by 0.19–0.27 mm wide, with well-developed circular muscle layer and indented anterior border. Esophagus very short, 0.02–0.06 mm long, bifurcating between suckers. Intestines thick, straight, terminating blindly near posterior end of body. Ventral sucker at about anterior third of body, 0.19–0.27 mm long by 0.23–0.30 mm wide, usually slightly larger than



Figs. 1–4. *Lepocreadium kamegaii* sp. n.

Fig. 1. Entire worm, holotype, ventral view. Fig. 2. Male terminal genitalia, holotype, ventral view. Fig. 3. Plug-like organ in the male duct, a paratype, ventral view. Fig. 4. Ovarian complex, another paratype, dorsal view.

Scale bars. 1=0.5 mm; 2, 4=0.2 mm; 3=0.05 mm.

oral sucker; sucker width ratio 1: 0.92–1.11.

Testes rounded, entire, oblique, close together in anterior part of posterior third of body, 0.18–0.35 mm long by 0.16–0.24 mm wide. Cirrus pouch extending posterior to ventral sucker, 0.31–0.47 mm long by 0.08–0.12 mm wide; internal seminal vesicle oval, 0.05–0.09 mm in diameter; pars prostatica V- or S-shaped, divided into two (proximal and distal) portions; prostate cells weakly formed, included in cirrus pouch; a short sheath-like duct (or ejaculatory duct?) present between pars prostatica and cirrus; a plug-like organ present in sheath-like duct, very rarely absent, somewhat flattened, directed anteriad, connected to internal wall of posterior end of sheath-like duct by a short thread, usually longer than sheath-like duct, 0.042–0.058 mm long; cirrus unspined, long, winding, protrusible. External seminal vesicle elongated, a little longer than internal seminal vesicle. Genital atrium not seen; genital pore almost sinistrolateral to ventral sucker.

Ovary possessing many (about 10 or more) bud-like lobes, medial, pretesticular, 0.12–0.27 mm long by 0.12–0.23 mm wide. Ootype dorsal to ovary; Mehlis' gland weakly developed. Seminal receptacle located between anterior testis and left intestine, 0.08–0.25 mm long by 0.06–0.17 mm wide. Laurer's canal running posteriad between anterior testis and seminal receptacle. Uterus convoluted in space encircled by intestines, anterior testis and ventral sucker; metraterm well-formed, devoid of crescent bulb-like muscular thickening at opening, 0.20–0.47 mm long by 0.05–0.09 mm wide. Eggs not embryonated, 54–78 by 35–46 μm in balsam. Vitelline follicles small, filling lateral fields of body, continuous behind testes, distributed anteriorly to pharyngeal level, may or may not be confluent around ventral sucker. Excretory vesicle tubular, reaching to midlevel of ventral sucker; excretory pore posteroterminal.

Discussion: *Lepocreadium kamegaii* sp. n. is most closely allied to *L. clavatum* (Ozaki, 1932) Yamaguti, 1938, in morphology and host species. Ozaki [1] described *L. clavatum* first as *Lepotrema clavatum* from *Monacanthus cirrhifer* [=*Stephanolepis c.*] from Otaru southward Nagasaki. Later, Yamaguti [2] transferred it from *Lepotrema* Ozaki, 1932, to *Lepocreadium* Stossich, 1903. He also recorded it from *M. cirrhifer* from the Inland Sea, *Cantherines unicornu* [=*Navodon modestus*] (Monacanthidae) from the Pacific coast of Mie Prefecture and *Pseudorhombus cinnamomeus* [sic] [=*P. cinnamoneus*] (Paralichthyidae) from the Inland Sea in 1934 [3]; from *M. cirrhifer* and *C. unicornu* (locality not indicated) in 1938 [2]; and from *Melichthys vidua* (Monacanthidae) from Hawaii in 1970 [4]. We reexamined his specimens of *L. clavatum* to compare them with the present ones: 2 gravid specimens (MPM Coll. No. 22163) from *C. unicornu* [at Kuki] [3]; 4 mature specimens (MPM Coll. No. 22386) from *C. unicornu* [at Tarumi] [2]; and 12 specimens (MPM Coll. No. 15096) from *M. vidua* [4]. The present new species differs from *L. clavatum* in having the plug-like organ of unknown function in the male duct, elongated and bipartite instead of spherical and entire pars prostatica, genital pore being sinistrolateral instead of anterolateral to the ventral sucker and more lobed ovary and in lacking the crescent bulb-like muscular thickening at the opening of the metraterm. By the way, it may be worth referring to Yamaguti's Hawaiian specimens. They did resemble the other Japanese ones. However, they are said to have the prostate cells massing together outside of the cirrus pouch [4]. Our reexamination failed to confirm this, because they were poorly stained. If Yamaguti [4] is correct in observation, they cannot belong at least to the genus *Lepocreadium*: In this genus, the prostate cells are present only in the cirrus pouch. Ten adult worms (NSMT-Pl 2855) found by Dr. S. Shimura in the intestine of *R. ercodes* in Moroiso Bay on May 29, 1980, also are assigned to the present new species. The name *kamegaii* is in honor of Dr. Satoru Kamegai, the Founder and Director of the Meguro Parasitological Museum, Tokyo.

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